The Manitoba
Habitat Heritage
Corporation

PROJECT UPDATE REPORT

1984 — 1986

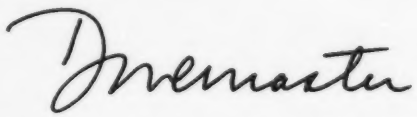
Message from the Chairperson

On behalf of the Board of Directors of the Manitoba Habitat Heritage Corporation, I am pleased to introduce the first report of the activities of the Corporation.

The Corporation is a non-profit organization with a mandate to enhance and preserve fish and wildlife habitat in Manitoba. The Corporation is administered by a Board of Directors who donate their time and expertise to achieve the objectives of the Corporation. Basic funding is provided by the Provincial Government and valuable logistic and administrative support is provided by the Department of Natural Resources. Invaluable assistance is also provided by concerned citizens through financial support and by cooperative ventures with the Corporation.

Modern society with its increasing demand for productivity and efficiency has neglected many of the basic needs of fish and wildlife. As the face of the Manitoba countryside has changed, there has been enormous stress placed on fish and wildlife habitat. The deteriorating quality of natural areas in our province should be of major concern to all members of our community. The Corporation actively encourages the participation of all citizens in the preservation and enhancement of fish and wildlife habitat.

It is our collective responsibility to hold our woods, prairies, lakes, streams and marshes in trust for the enjoyment and benefit of society in the future.



Don McMaster

Protecting Manitoba's Living Resources

The continued survival of Manitoba's unique and diverse fish and wildlife populations depends upon the conservation of suitable habitat. Habitat refers to the collective elements of food, water and shelter required for life by any animal, including all fish and wildlife species. The requirements of each species vary, but the relative abundance of a species is largely dependent upon the amount and quality of habitat available.

In Manitoba, there are many competing uses for the land and water resources which provide fish and wildlife habitat. As a result of agricultural development, urban expansion, and industrial and hydroelectric development, important habitats may be lost or their productivity diminished.

The value of our fish and wildlife populations are many. Besides generating income through fishing, hunting and trapping, these living resources provide significant cultural, recreational and educational benefits to Manitobans. In order to continue enjoying the benefits of our fish and wildlife populations, there is a need to protect and improve the habitats which support them.

The provincial government's concern for the deterioration and loss of fish and wildlife habitat was demonstrated in 1984 with the initiation of the Manitoba Habitat Heritage Program. The purpose of this program is the protection of key fish and wildlife habitats through the activities of land acquisition, habitat protection agreements (leases) and habitat enhancement projects.

This report describes specific projects undertaken by the Manitoba Habitat Heritage Program in the conservation, restoration, and enhancement of fish and wildlife habitat in Manitoba.

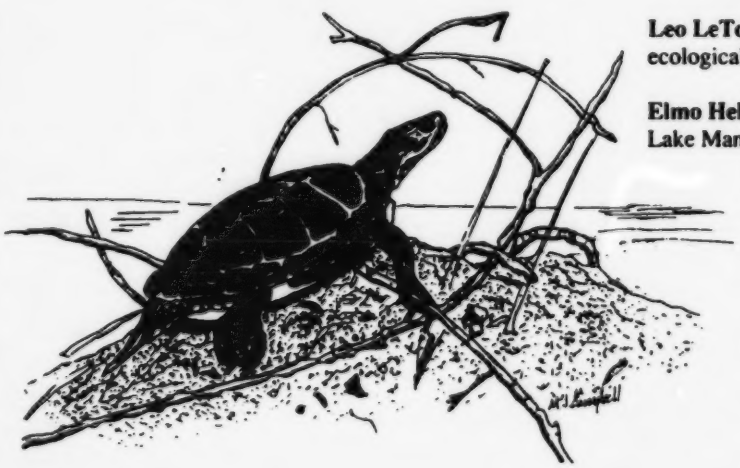
The Manitoba Habitat Heritage Corporation

Administration and Objectives

Since February 1986, the funding and operation of the Manitoba Habitat Heritage Program has been administered under a corporation, The Manitoba Habitat Heritage Corporation, which operates under a board of directors.

The Corporation's Board of Directors was appointed by the Lieutenant Governor in Council. The board consists of knowledgeable conservationists who examine project proposals put forward to the Corporation by government representatives and public groups.

These proposals are evaluated on the basis of technical merit, public demand, and environmental need. Chief targets for this program are habitats in Agro-Manitoba that are the most vulnerable to destruction, and habitats of rare and endangered species. The Board makes decisions regarding the initiation of new projects, and reviews the progress of continuing projects before allocating additional funding. Funds are allocated on a 50:50 basis to fish and wildlife projects.



Members of the Board

The board members volunteer their time and expertise to M.H.H.C.. During their first year of operation they met 9 times in various locations throughout the province to review and inspect projects.

Members of the Board include:

Don McMaster (Chairperson), an avid outdoorsman, landscape painter and member of the Manitoba Wildlife Federation and Manitoba Naturalist Society.

Anne Longston (Vice-Chairperson), Vice-principal of Lac Du Bonnet Senior School, rural woodlot owner and manager, and outdoor enthusiast.

Dr. Roger Smith, Professor and Head of Zoology, Brandon University.

Arthur Allan, Land-Use Chairman of the Manitoba Wildlife Federation.

George Dano, President of the Waterhen Lake Fisherman's Association.

Paul Murphy, former executive director, Manitoba Wildlife Federation and past editor of Wildlife Crusader.

Diane Brueton, M.E.S. York University, Member of the Manitoba Naturalist Society.

Al Mickey, machinist with C.P.R., and member of the Manitoba Naturalist Society.

Leo LeTourneau, Ph.D. Admin., environmental, ecological, and wildlife habitat researcher.

Elmo Helgason, Commercial Fisherman, President of Lake Manitoba Commercial Fisherman's Association.

Activities of the Corporation

In order to achieve the objectives of the conservation and enhancement of habitat, the Corportation undertakes a variety of activites.

Activities of the Corporation include:

- either alone or by agreement with other agencies, groups or individuals, manage, improve or restore habitat on public land and waters.

- manage, improve or restore habitat on private land and waters by agreements (usually leases) with the landowner.

- assist an owner of private land to effectively manage habitat by means of grants or making available the advice and services of habitat experts.

- provide information to the public about fish and wildlife populations and habitat through various media techniques to promote public awareness of and public participation in the conservation, restoration and enhancement of fish and wildlife habitats and populations.

Habitat Leases

Often agreements are entered into with landowners to enable the M.H.H.C. to manage important fish and wildlife habitat on private land. This agreement usually takes the form of a lease. Payments to the landowner are customarily based on a land assessment, and the leases are generally of a five year duration. The conditions of the lease state the types of activities which may occur on the land during the term of the lease. As an example, grazing of cattle may be permitted if it is deemed to have no detrimental effect on the habitat for wildlife and fish populations.

Habitat Acquisition

When management rights to "key" or critical habitat areas cannot be obtained through leases (easements), or mutual agreement, it sometimes becomes desirable to secure these important areas by outright purchase. Purchase of the land insures the protection and preservation of the habitat for future generations. This important component of the program accounts for 25% of the funds allocated to the Corporation.

Habitat Enhancement

Enhancement or restorative efforts focus on improving the productive capacity of habitats, thereby increasing the abundance or diversity of fish and wildlife species. Some enhancement projects are completed in a single season, whereas others may require work over a number of years to produce the desired results. Subsequent monitoring of fish and wildlife responses are undertaken to evaluate effectiveness of various techniques and thereby maximize benefits on future projects.

Described on the following pages are some of the habitat improvement or restoration techniques which are used in Habitat Heritage Program projects.

Fish Habitat Enhancement Techniques

Lake Aeration

Very low oxygen levels may occur in small, productive lakes during the winter, and fish kills may result. Winter survival of fish populations can be assured by using an artificial aeration system designed specifically for the reservoir or lake. Compressors circulate fresh air within the lake and improve year round fish survival. All of the Habitat Heritage aeration projects have been co-funded by either local communities, Manitoba Parks Branch or the Manitoba Water Services Board.

Rearing ponds

Small lakes and ponds are being developed as rearing ponds where newly-hatched walleye are grown for their first summer in a predator-free environment, then removed and used to replenish walleye stocks or establish new stocks in our lakes and reservoirs. Using man-made structures as walleye rearing ponds offers an added bonus over natural lakes and ponds, since the former can be completely drained, ensuring that all of the walleye are released.

Improvement of Spawning and Rearing Habitat

Siltation or excavation of gravel and rock substrates in streams can severely reduce or eliminate fish spawning and feeding. Pools and riffles may be recreated in a stream which has been channelized, to restore habitat for fish spawning and insect production. Also, hiding and resting spaces may be improved by adding boulders, logs or brush piles.

Stream Clearance

Often stock watering dams and stream crossings can be obstructions to fish moving to historical spawning or feeding habitat. Excessive flow velocities through culverts are a common problem. Removal or modification of barriers may ensure fish access to upstream or downstream habitat.

Fishways

Access over large obstructions or over barriers that cannot be removed, may be provided by a fishway. Using baffles to reduce water velocities and create compartments of slow water where fish can rest, these structures enable fish to climb, through a series of steps, over high dams and waterfalls. By improving or restoring access to spawning grounds, fish populations will be enhanced.

Water Level control

Regulated water levels help to prevent fish winterkills and the possible emigration of desirable fishes from the lake. Control structures at the outlets of lakes may also prevent undesirable fish species from entering the lake from outlet tributaries.

Multiple Resource Use Projects

The M.H.H.C. has commissioned studies to explore the opportunities that exist for a more resource based approach to the development and management of selected watersheds. Such an approach would incorporate fish habitat protection and development measures into an overall plan to manage or develop land and aquatic resources. Initiatives proposed have included a more 'natural' agricultural drain design, re-creation of pools and riffles in channelized streams, and streambank stabilization through agricultural lands where recreational stream fisheries have been created.

Wildlife Habitat Enhancement Techniques

Prescribed Burning

Prescribed burning is a technique which is used to improve the quantity and quality of vegetation on shrub or grassland ranges or to create grasslands in a predominantly forested area. Fire removes old, unproductive growth and releases nutrients into the soil. The resulting lush, new growth provides forage for a variety of big game and non-game species. To insure that the burn will have the desired effect on the vegetation and will be confined to the treatment area, comprehensive planning in conjunction with the Regional Services and Forestry Branches is undertaken, fire guards are constructed and weather conditions are monitored. The response of the vegetation following fire treatment is monitored to assess effectiveness of the burn.

Mechanical Treatments

Stands of aspen, willow and other species become unusable as a big game food source as they mature. In order to encourage succulent young foliage at or near ground level, the decadent growth is slashed or mechanically knocked down. This increases sunlight penetration and encourages the growth of shrubs, forbes and grasses to produce a high quality nutritious food source.

Plantings

Sometimes habitats for selected wildlife species are enhanced by the establishment of tame forage such as alfalfa. These plantings provide a nutritious food source at critical times of the year and help to reduce wildlife depredation on adjacent lands. They also function as a nesting habitat for waterfowl.

Tree planting programs may be undertaken in areas containing insufficient amounts of wooded escape cover. These plantings also help to control wind erosion and function as snow catchments.

Water level control

The ability to regulate water levels is essential in maintaining and improving productivity in wetland and marsh habitats. In some locations flooding may be necessary to enhance habitat for waterfowl, shorebirds and aquatic mammals. Water levels are controlled through the construction of dykes and dams and the installation of pumps. Following the regulation of water levels, other improvements such as the construction of nesting islands and the establishment of nesting cover and aquatic vegetation can occur.

Structures

The abundance of some wildlife species may be limited by the availability of nesting sites. This requirement may be fulfilled by the placement of nesting structures for waterfowl, hawks and owls.

In other areas where watering sites for wildlife are in short supply, dugouts are created.

Public Use

Sometimes enhancement projects are located near cities or towns, and present a prime opportunity for educational and recreational viewing of wildlife. Trails, observation towers and posted interpretive information can encourage maximum use by the public while exerting minimum disturbance to resident wildlife populations. Proposals which facilitate and encourage public participation are being considered for future enhancement projects.

The Habitat Heritage Program has provided a source of funding for a wide range of fish and wildlife habitat projects. Described below are projects which were undertaken during the 1984-1986 period.

Southwestern Region

Enhancement Projects

1. **Adam Lake**
   Funding: $24,151
   Three years
   Ongoing

   Although considerable recreational development had occurred around this lake no fishery was possible due to repetitive winterkills. The dyked-off swimming area provided an opportunity for an experimental partial aeration project. The success of the partial aeration concept is being monitored as a possible method of preventing winterkill on large lakes.

2. **Mary Jane Reservoir**
   Funding: $9,927
   Two years
   Complete

   An aeration system was purchased and installed to eliminate frequent fish kills and improve the sport fishery. Aeration also resulted in improved drinking water and reduced costs for chemicals for water treatment. In addition, crushed rock and coarse gravel was spread at the main boat launch site and high use areas to reduce erosion and rutting and to improve public access to the reservoir.

3. **Eternal Springs Reservoirs**
   Funding: $7793
   Two years
   Complete

   In 1970 the Virden Wildlife Association constructed two earthen dams along a small spring fed ravine to create two reservoirs. The reservoirs were successfully stocked with brook and rainbow trout, but during spring run-off and storms, the dams experienced overtopping and partial collapse. To protect this important trout habitat, M.H.H.C. provided funds to stabilize the existing overflow spillway with the installation of rip rap and to reconstruct the lower dam and install a drop inlet structure.

4. **Bower Lake**
   Funding: $8430
   Two years
   Complete

   Bower is a small lake situated close to a provincial highway in the Turtle Mountain Park. In order to provide a good quality sport fishery in the area, an aeration system was installed, an access trail was improved, and a boat launch and parking lot were constructed.

5. **Boissevain Reservoir & Jackson Lake**
   Funding: $1392
   Three years
   Ongoing

   Jackson Lake is a 190 acre reservoir that supports a moderate pike fishery. Boissevain Reservoir is 90 acres in size and supports a walleye, pike and perch fishery. In spite of extensive fingerling stocking, angler success had been disappointing. In order to provide cover and rearing area for forage fishes, artificial reefs were constructed from tires. Fish loss due to overflows during periods of high water levels was reduced with the installation of an expanded metal screen at the drop-inlet structure.

6. **Elgin Reservoir**
   Funding: $8951
   One year
   Complete

   The N.E. side of Elgin Reservoir, a 65 acre recreational impoundment, is being developed as a golf course and recreation area. Recreational fishing opportunities were enhanced by the installation of an aeration system in the reservoir.

7. **Grassy Lake**
   Funding: $6390
   One year
   Complete

   An old drainage channel between Bone Lake and Grassy Lake had filled in with sediment and vegetation. The channel was cleared to improve upstream and downstream spawning movements, and increase fish survival.

8. **Oak Lake**
   Funding: $4636
   One year
   Complete

   Oak Lake is the largest sport fish water in southwest Manitoba, and supports an active fishery, camping and cottaging area. When degraded water quality began to result in an almost annual winterkill, local business people saw their investments threatened. In order to prevent winterkills, local interest groups monitor oxygen levels in the lake. As required, M.H.H.C. provided funds for aeration and snow clearing on a cost share basis with the local municipal groups.

9. **Rock Lake Fish Refuge**
   Funding: $13,500
   Two years
   Ongoing

   In order to provide a fish refuge, a channel was dredged into the mainland and connected to Cavers spring and Rock Lake. The benefits of this improved habitat are: improved overwintering of fish in winterkill years; the possible elimination of the need for aeration equipment due to the high dissolved oxygen levels of the spring water flow; the control of rough fish levels; and increased potential for other developments such as a marina, a swimming pool fed by spring water, and picnic areas.

10. **Deloraine Reservoir**
    Funding: $8,300
    One year

    Deloraine Reservoir is about 90 acres in surface area, with a maximum depth of 38 feet. It supported a poor quality pike, walleye, perch, and bass fishery and is the domestic water supply for the Town of Deloraine. Since its construction in 1962, water quality had deteriorated, resulting in a deep dead water zone on the bottom of the reservoir. An aeration system was installed to improve water quality, expand fish habitat and reduce fishkills.

11. **Malaher W.M.A.**
Funding: $2,600
One year
Complete

A dam built in 1949 was reconstructed to maintain a pond which provided habitat for numerous wetland wildlife species.

12. **West Derby W.M.A.**
Funding: $2,000
Two years
Complete

A dam was constructed on a small creek to enhance habitat for waterfowl and other wildlife associated with wetlands.

13. **John MacPhail Wildlife Refuge**
Funding: $7,550
Four years
Complete

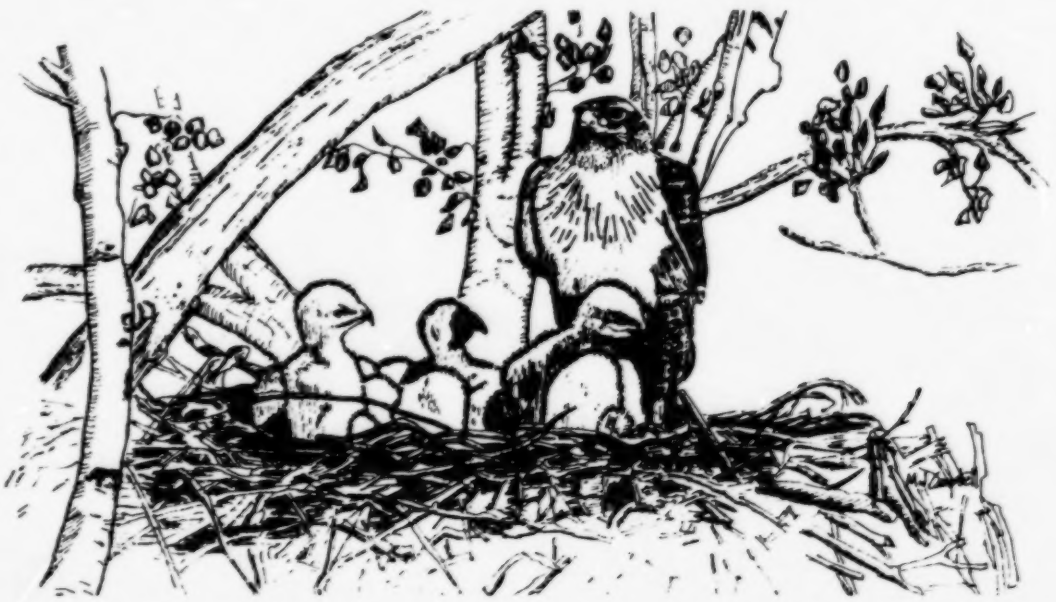
Existing wetlands were improved by the construction of a dike, nesting islands, and the installation of a windmill to provide year round brood water. In addition, trees were planted to enhance cover for wildlife and increase snow catchment.

14. **Boissevain**
Funding: $2,200
Two years
Complete

The Turtle Mountain Greenwing Committee (junior members of Ducks Unlimited), became interested in enhancing wood duck habitat and nesting success by providing nesting boxes for use by this species. With funds provided by M.H.H.C., this group of young conservationists established wood duck nest boxes in the Turtle Mountain area. In addition to improving habitat for wood ducks, this project is important in involving rural young people in wildlife conservation.

15. **Ferruginous Hawk**
Funding: $1,500
Two years
Ongoing

Materials for 25 artificial nest structures were purchased for placement in areas frequented by Ferruginous Hawks. These structures will provide improved nesting opportunities for this 'threatened' Manitoba bird of prey.



16. **Great Grey Owl**
Funding $600
Two years
Ongoing

Materials for 30 artificial nest structures were purchased for installation in the Spruce Woods Wildlife Refuge where Great Grey Owls were known to reside. Provision of these structures could expand the breeding range of this rare owl in western Manitoba.

17. **Burrowing Owl**
Funding: $2,246
Two years
Ongoing

Thirty-two artificial nesting burrows were constructed and placed in six cattle pastures in southwestern Manitoba known to be frequented by burrowing owls. These structures ensure the availability of nesting sites for this rarely observed Manitoba owl.

18. **Dead Horse Creek, Morden**
Funding: $500
One year
Complete

A study of the outdoor educational and recreational potential of Dead Horse Creek was undertaken by students of the Department of Landscape Architecture, University of Manitoba. The study included an inventory of existing site conditions (reservoir shoreline and creek banks), together with recommendations for their restoration and improvement for both recreation and fish habitat. The final product of the study was a report containing plans and details of shoreline and creek bank restoration alternatives, complete with explanatory notes.

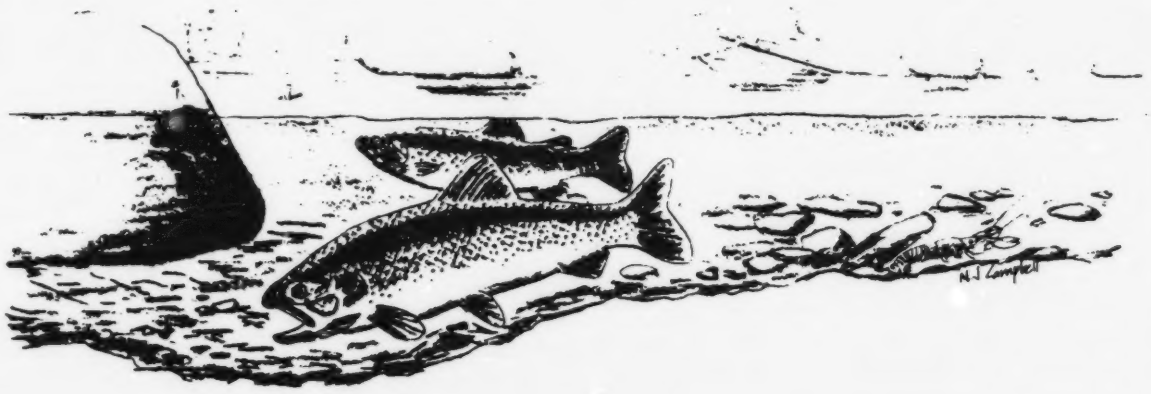
Easement Projects

19. **R.M. of Birtle**
Funding: $24,000
Five years
Ongoing

In the past decade critical deer habitat has been rapidly disappearing in this area due to agricultural development. To protect contiguous pieces of upland habitat containing deer wintering areas and travel lanes, 1551 acres of land were leased under five year agreements from 11 landowners. The local Snake Creek Wildlife Association contributed significantly to the success of this project by identifying important habitats for protection and initiating negotiations with landowners.

20. **Pierson-Prairie Parkland**
Funding: $13,688
Five years
Ongoing

A habitat protection agreement was negotiated with a local landowner to preserve 480 acres of valuable native aspen parkland which provides excellent deer and sharp-tailed grouse habitat.



Acquisition Projects

21. **Smith Property**
Funding: $20,000
One year
Complete

This 160 acre parcel of land, located in the Tiger Hills offers an excellent example of a prairie woodland ecosystem. Land clearing in this part of the province was occurring at a fast pace compared to other areas of Manitoba. To preserve this important habitat for white-tailed deer, waterfowl and other wildlife species, this parcel was purchased.

22. **McPhail Property**
Funding: $23,750
Two years
Complete

A quarter section of land containing a ravine, a beaver pond, treed and clear areas, was purchased to maintain habitat for white-tailed deer and other wildlife species. Five small fields totalling 37 acres were converted to tame forage for utilization by wildlife.

23. **Kissick Property**
Funding: $12,000
One year
Complete

Under a joint agreement involving M.H.H.C., Wildlife Habitat Canada, Manitoba Wildlife Federation, and the Manitoba Naturalist Society, a 160 acre parcel of waterfowl habitat was purchased. Under the agreement, management responsibilities are vested with Ducks Unlimited (Canada).

24. **Ross Property**
Funding: $55,729
Two years
Complete

A valuable 480 acre parcel of aspen-oak woodland in this area was purchased. This parcel is an important deer wintering area and supports a variety of wildlife. A 35 acre field was established as an alfalfa forage plot to provide a nutritious food source for wildlife.

25. **Royal Bank Property**
Funding: $10,043
One year
Complete

One hundred and sixty acres of rugged, rolling land comprised of woodland, sand dunes and short prairie grasses were purchased to preserve prime white-tailed deer habitat.

Southeastern Region

Enhancement Projects

26. **Fort Whyte**
Funding: $5,000
One year
Complete

The Fort Whyte Centre for Environmental Education is a unique natural setting within Winnipeg's city limits. Comprised of 180 acres of lakes, forest, and marsh, and complete with an interpretive centre, it is used by the public in general, and by teachers and students particularly. In order to improve and maintain fish habitat, funds were contributed for a habitat enhancement project undertaken by the Centre. This included shoreline stabilization and planting and the creation of artificial reefs and islands.

27. **Belair Forest**
Funding: $1,300
One year
Complete

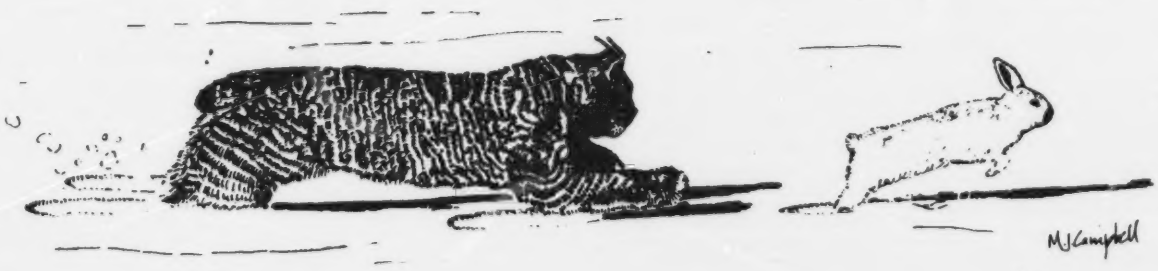
Seven dugouts were established to provide wildlife watering sites in an area of the Province where water is scarce.

28. **Assiniboine Wildlife Associaction**
Funding: $200
One year
Complete

The Assiniboine Wildlife Association secured an agreement with a local landowner which allowed for the management of approximately 22 acres of native pasture, and approximately ten acres of cultivated land adjacent a ten acre permanent wetland. With funds provided by M.H.H.C., the local Association undertook the seeding of the area to provide forage and nesting cover for waterfowl and other ground-nesting birds, grouse, small mammals and deer.

29. **Wildlife Oases**
Funding: $3,739
Three years
Complete

A tree planting program was undertaken on ten parcels of Crown land in the Red River Valley established as wildlife refuges. These efforts enhanced habitat for jackrabbit, fox, gray partridge, raccoon, mink, mallard, sparrows, juncos, gold finches and many other wildlife species.



30. **Falcon Creek**
Funding: $13,328
One year
Complete

Falcon Creek flows into Falcon Lake in the Whiteshell Provincial Park and supports a walleye spawning run every spring. Due to sedimentation, reproductive habitat in the stream had deteriorated. Rock/rubble substrate was added to the creek bed to improve natural spawning success and perched round culverts were replaced by arch-type culverts to improve access upstream. The location of the project adjacent to a golf course, along with signs identifying it as a Habitat Heritage project, provide an opportunity to incorporate fish habitat rehabilitation into an interpretive program to improve public awareness.

31. **Milner Ridge**
Funding: $12,139
Two years
Complete

Pond fishing opportunities were limited in the area east of Winnipeg. Several springs were active on Milner Ridge. A series of pools were created into which trout were introduced to create a new sport fishery in this area.

32. **Hamilton Creek**
Funding: $3,492
One year
Complete

This creek flows into Falcon Lake and has been a primary spawning area for walleye. Over time, the spawning beds had become covered by finer sands and silt. Artificial substrate was added to enhance the reproductive success of walleye in the stream, and to improve the walleye population in Falcon Lake.

33. **Rennie River**
Funding: $4,657
One year
Complete

The Rennie River has historically been the main spawning stream for Brereton Lake walleye. Rock riffles were created near P.T.H. 44 to extend and improve spawning habitat.

34. **Bannock Point**
Funding: $8,315
Two years
Complete

With the installation of a culvert and construction of a dyke, a beaver pond was developed as a rearing pond to stock walleye into the Whiteshell River and Lake Nutimik.

35. **Rainbow Falls White Lake**
Funding: $2,320
One year
Complete

To improve natural walleye spawning success, rock/rubble substrate was added to a selected area to provide maximum utilization of reproductive habitat.

36. **Red Rock Lake**
Funding: $4,080
Two years
Complete

In March of 1984, 320 cubic yards of unscreened gravel were placed on the ice at Red Rock Lake near an old creek outlet to provide spawning habitat for walleye. Increased fishing activity was noted in the area during the summer of 1984. In the second year, additional substrate of optimum size was added to expand the walleye spawning area.

37. **Red River Floodway**
Funding: $4,320
One year
Complete

The lower floodway was developed as a rearing pond to stock walleye into the Red River and Lake Winnipeg. To facilitate the release of walleye fingerlings into the Red River, and to maintain an adequate water level, the culverts in the fixed-crest weir at the outlet of the Red River floodway were temporarily blocked. This construction allowed for minimal handling of the walleye and also made it possible to drain the floodway. This maximized both the survival rate, and the total number of walleye released to the Red River and Lake Winnipeg.

38. **Brokenhead River**
Funding: $3,053
One year
Complete

During the construction of a bridge on a provincial highway, a meander of the Brokenhead River was cut off, thereby altering the gradient of the stream. In order to reduce erosion and sedimentation in the modified stream, and to provide improved spawning habitat for walleye, three riffle structures were installed.

39. **Scanterbury Ponds**
Funding: $12,525
One year
Complete

Ponds originally used as a wild rice paddy for the Brokenhead Indian Reserve were developed into walleye rearing ponds for Lake Winnipeg. One of the ponds, capable of being totally drained by gravity, presented an opportunity to test the feasibility of using drainable ponds for raising walleye from fry to fingerlings.

40. **Rat River Lonesands Project**
Funding: $21,928
Three years

A 25 year land easement of a stream corridor was negotiated with a landowner in order to improve and develop a stream trout fishery in close proximity to the city of Winnipeg. Improvements included the erection of fencing to exclude cattle from the stream, restricting access to watering sites and the construction of small bridges. This project demonstrates to the public various types of land use practices which can result in improved water quality and decreased soil erosion through shoreline stabilization and protection, and increased fish productivity in water ways.

41. **Roseau River**
On hold

To re-establish access by walleye and other species to historic habitat areas, a denil-type fishway will be constructed in the water supply dam at Dominion City. This will improve angling opportunities in a greater portion of the Roseau River.

42. **Whiteshell**
Funding: $7,000
One year

An individual was contracted to investigate and monitor several completed walleye habitat improvement projects in Whiteshell Provincial Park. Collected data will make it possible to determine modifications needed to ensure optimum success at these sites, as well as to determine the correct rehabilitation designs that should be applied in new areas.

43. **Stream Rehabilitation Film**
Funding: $15,000
One year
Complete

A film was produced which provides information regarding the characteristics of natural streams and their biological significance to fish habitat. Methods are presented whereby channelized water systems can be rehabilitated to support fish populations by incorporating the physical geometry of natural streams into man-made water systems. The film also identifies sites of potential stream rehabilitation and encourages public participation with assistance and information being offered by the M.H.H.C.

44. **Portage Highway Bypass Project**
Funding: $1,365
Two years
Complete

A culvert and control gate were installed in a low lying area adjacent to the Trans Canada Highway to provide habitat for waterfowl and shorebirds. The proximity of this site to No. 1 Highway provides the public with an opportunity for viewing a prairie marsh ecosystem.

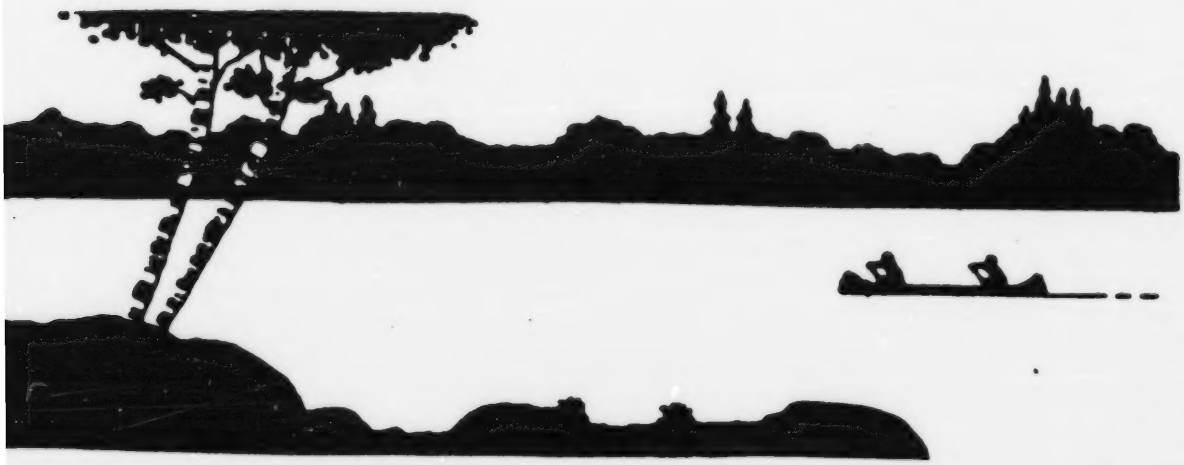
45. **Agassiz Forest**
Funding: $ 3,800
Two years
Complete

Five forage plots for wildlife were developed by clearing land, preparing seed beds and planting alfalfa within a forest reserve. These plots provide forage for deer, grouse and other upland wildlife.

Acquisition Projects

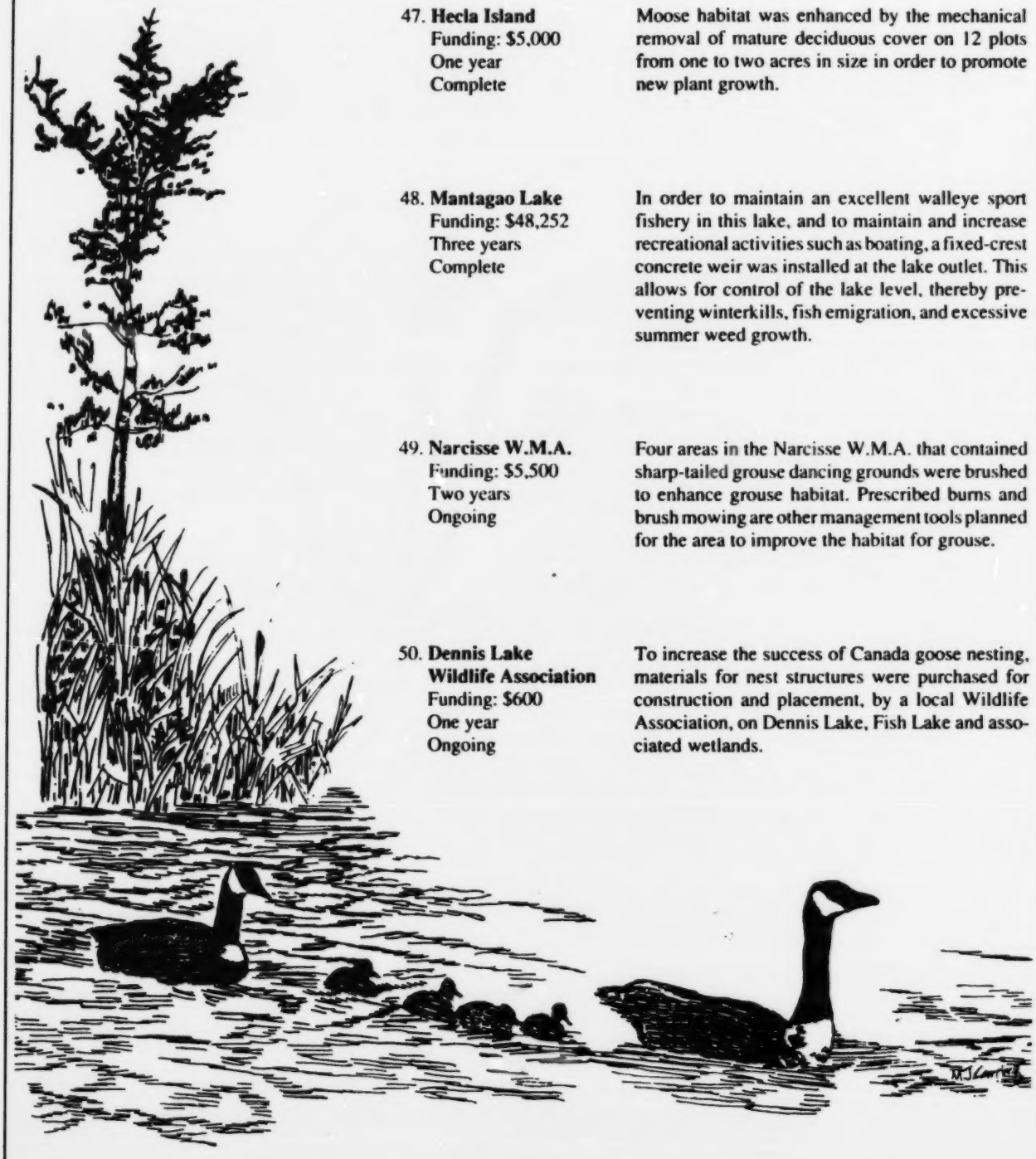
46. **Waddingham Property**
Funding: $30,434
One year
Complete

A half section of property with high habitat value for deer, moose, coyote and fox was purchased.



Interlake Region

Enhancement Projects



47. **Hecla Island**
Funding: $5,000
One year
Complete

Moose habitat was enhanced by the mechanical removal of mature deciduous cover on 12 plots from one to two acres in size in order to promote new plant growth.

48. **Mantagao Lake**
Funding: $48,252
Three years
Complete

In order to maintain an excellent walleye sport fishery in this lake, and to maintain and increase recreational activities such as boating, a fixed-crest concrete weir was installed at the lake outlet. This allows for control of the lake level, thereby preventing winterkills, fish emigration, and excessive summer weed growth.

49. **Narcisse W.M.A.**
Funding: $5,500
Two years
Ongoing

Four areas in the Narcisse W.M.A. that contained sharp-tailed grouse dancing grounds were brushed to enhance grouse habitat. Prescribed burns and brush mowing are other management tools planned for the area to improve the habitat for grouse.

50. **Dennis Lake Wildlife Association**
Funding: $600
One year
Ongoing

To increase the success of Canada goose nesting, materials for nest structures were purchased for construction and placement, by a local Wildlife Association, on Dennis Lake, Fish Lake and associated wetlands.

51. **Broad Valley W.M.A.**
Funding: $1,250
Two years
Complete

Sixteen forage plots were developed within existing clearings to provide a highly nutritional food source in spring, summer, and fall for white-tailed deer, elk and grouse. Forage developments in this W.M.A. also assisted in decreasing crop damage by big game on private lands adjacent to the management area.

52. **Lundar W.M.A.**
Funding: $1,613
Two years
Complete

Approximately 3.2 km of boundary line was cleared, broken and seeded to tame forage. The cost of this development was shared with the R.M. of Coldwell. It resulted in the provision of additional fire protection for local landowners, reduced big game depredation, and enhancement of wildlife habitat through the provision of a highly nutritional food source.

53. **Narcisse W.M.A.**
Funding: $2,566
Three years
Complete

A fireguard created for a controlled burn, was developed as a forage plot for white-tailed deer, elk, and upland game birds. By combining the two habitat improvement techniques of controlled burning and forage plot development, an area of excellent habitat was created at a reasonable cost which will benefit a variety of wildlife species.

Western Region

Enhancement Projects

54. **Pim Lake**
Funding: $22,286
Two years
Complete

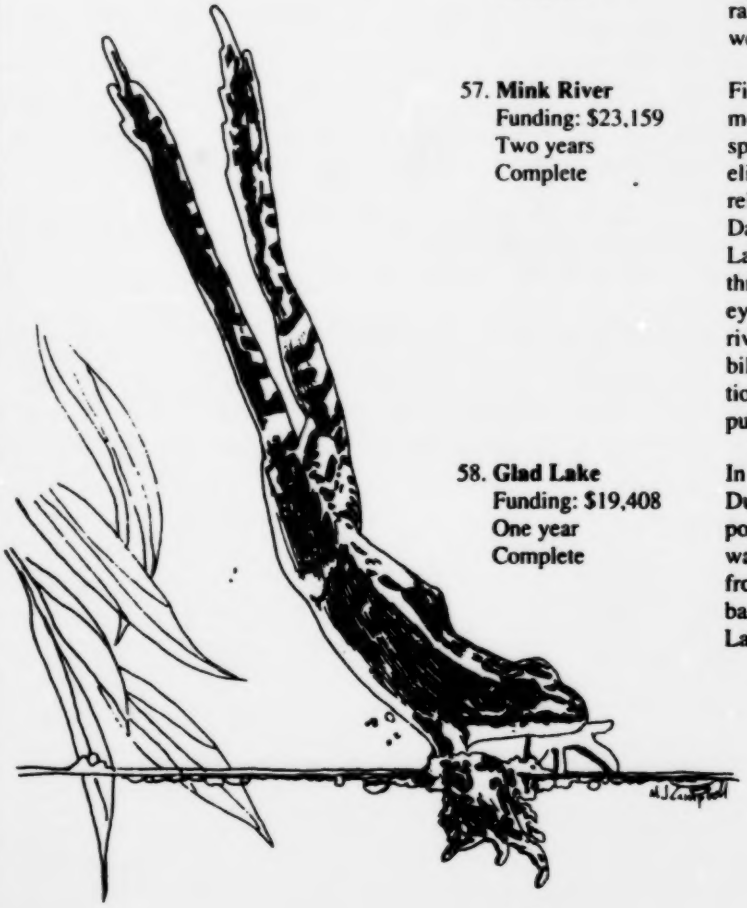
Walleye stocks on Lake Winnipegosis have declined by approximately 60% from the commercial production levels of the 1940's and 1950's. To replenish walleye stocks in the larger lake, adjacently located Pim Lake was developed as a rearing pond for Lake Winnipegosis.

55. **South/North Burrell Lakes**
Funding: $16,607
One year
Complete

South and North Burrell Lakes are situated near the north end of Lake Winnipegosis. In order to successfully use these lakes as walleye rearing ponds, it was necessary to divert flows through the construction of drainage channels. In addition, control structures were installed to control water levels and flows.

56. **East Goose Lake**
Funding: $7110
Two years
Complete

East Goose Lake contains a small campground and picnic site. In order to enhance the quality of angling and protect the fishery by eliminating winterkills, an aeration system was installed, and rainbow trout, brown trout and small mouth bass were stocked in the lake.

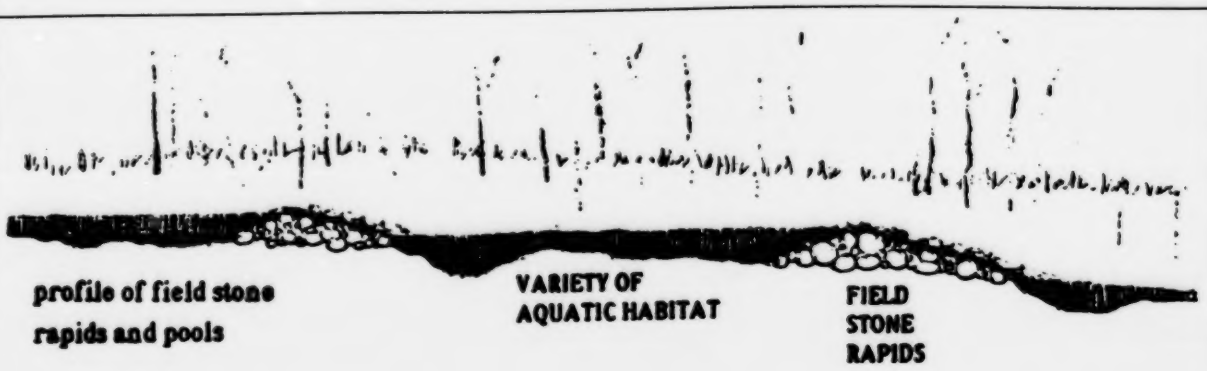


57. **Mink River**
Funding: $23,159
Two years
Complete

Fish yields on Dauphin Lake have declined by more than 90% since the 1940's, with desirable species such as walleye being almost completely eliminated. The decline in walleye appears to be related to poor spawning success in tributaries of Dauphin Lake. Mink River, a tributary of Dauphin Lake, had lost much of its natural spawning habitat through channelization. In order to re-create walleye spawning areas, field stone was added to the river to create riffles and pools. This stream rehabilitation will contribute to larger walleye populations in Lake Dauphin. It has also increased the public's awareness of fish habitat problems.

58. **Glad Lake**
Funding: $19,408
One year
Complete

In order to enhance sport fishing opportunities in Duck Mountain Provincial Park, the northern pike population in Glad Lake was removed and the lake was stocked with Arctic Char. To prevent pike from re-entering the lake from tributaries, a fish barrier was installed on the creek flowing into Glad Lake.



59. **Beaver Lake**
Funding: $7,000
Two years
Ongoing

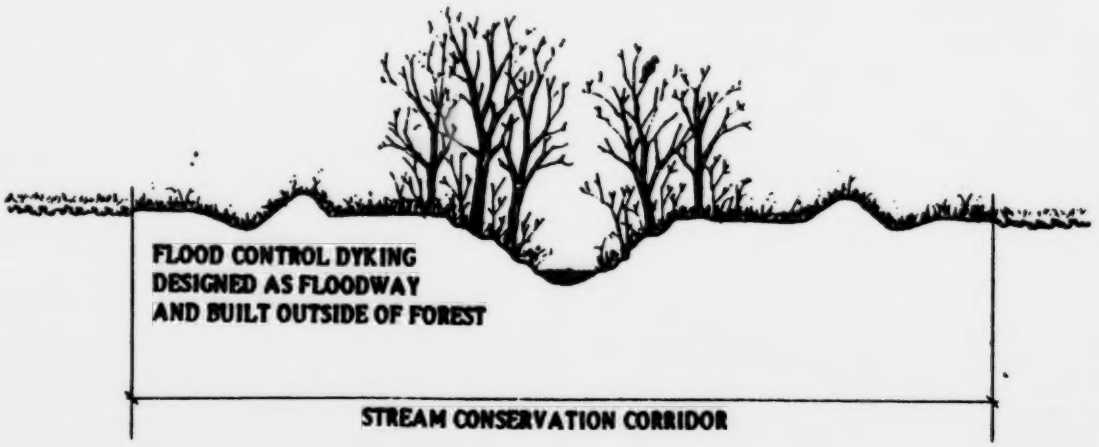
Beaver Lake is 51 acres in size and is part of a Duck Mountain Provincial Park canoe route. There is also a wayside picnic site situated here. In order to respond to the need for a sport fishery in this area, the lake was chemically reclaimed and stocked with brook trout. Control structures located at the outflow prevent recolonization by undesirable species of fish. This project was cost shared on a 50:50 basis with the Swan Valley Sport Fishing Association.

60. **Stream Habitat Course**
Funding: $3000
One year +

A course in stream habitat was conducted to inform individuals responsible for decisions on drainage developments about natural stream characteristics and the impact of drainage improvements to fish habitat. The course was comprised of lectures and field trips. Lectures were held in McCreary, with tours within the Riding Mountain escarpment and the Dauphin Lake area.

61. **Hansen Creek**
Funding: $2,500
One year
Complete

A feasibility study was conducted for a multiple-use conservation project on Hansen Creek, a tributary of the Turtle River. The study indicated how, with proper implementation, proposed works could result in benefits to agriculture, fisheries and wildlife.



62. **Elk Lake**
Funding: $4,500
One year
Complete

Elk Lake, situated in the Duck Mountains, has a maximum depth of two and one-half meters and was traditionally one of the few good pike lakes in the area. In 1983, an old control structure which was maintaining adequate water levels washed out and water levels dropped about two meters. A water control structure was constructed at the outflow to raise and maintain adequate water levels.

63. **Physical Habitat Survey on Dauphin Lake Streams**
Funding: $5000
One year
Complete

A cartographer/hydrologist was hired by the Prairie Farm Rehabilitation Association (P.F.R.A.) of Agriculture Canada to identify alluvial fan sites and provide designs for the construction of gradient control structures. M.H.H.C. provided funds to expand the P.F.R.A. study to collect and catalogue physical habitat data on downstream reaches of Dauphin Lake tributaries. The final report identified changes in stream channel length by comparing, (using aerial photographs), the channels in 1948 and 1980. Locations with extensive channelization can now be selected for fish habitat rehabilitation.

64. **Alonsa W.M.A.**
Funding: $11,000
Three years
Complete

Nineteen forage plots encompassing 36 acres were developed to enhance white-tailed deer habitat in this Wildlife Management Area. The plots were seeded to alfalfa and are harvested on a share basis with a local farmer.

65. **Verall Lake**
Funding: $4,000
One year
Complete

Verall Lake was dominated by fish populations of pike, suckers and perch which provided limited angling opportunities for the area. These species were removed by an intensive gill netting operation. Walleye were then stocked into the lake. A fish barrier was constructed at the outflow of the lake to restrict access of the competing species.

66. **Coleman Island**
Funding: $5,000
One year
Complete

This successful walleye rearing pond was experiencing infestation by species which competed with or predated on the walleye fry. The existing dyke was reconstructed to prevent the movement of undesirable fish into the pond.

67. **Sarah Lake**
Funding: $19,500
Four years
Ongoing

Forage plots were developed for deer and elk. This benefitted adjacent farmers both by the share basis of the hay harvest and the reduced elk depredation of private land. Elk habitat was enhanced by the provision of a nutritious food source.

68. **Lidstone**
Funding: $3,000
One year
Complete

Eleven forage plots were improved to increase productivity and ease of hay harvest. These plots, located in the Duck Mountain Provincial Forest provide a food source for local deer and elk populations.

69. **Duck Mountain Plot Regeneration**
Funding: $17,660
One year
Complete

Forty-two forage plots which had become overgrown and were no longer providing highly nutritional food for moose, elk and deer, were cleared by bulldozing to regenerate new growth and increase the availability of forage in the area for these big game species.

70. **Duck Mountain Elk Habitat**
Funding: $50,000
Five years
Ongoing

Prescribed burns of four square miles annually for five years will create grasslands for elk winter habitat over 20 square miles. This habitat improvement is expected to increase the number of elk in the Duck Mountain area from the present 1400+ to 2000+ individuals. The five year project is jointly funded by M.H.H.C., Wildlife Habitat Canada and the Province. The latter agencies will provide $100,000 and $50,000 respectively.

Acquisition Projects

71. **Crawford Creek Land Purchase**
Funding: $1,500
One year

A half-section of land, located within the Turtle River Watershed Conservation District (T.R.W.C.D.) became available for purchase. This land, part of the only natural alluvial fan within the district which had not been drained, served as a buffer between the manmade system of the creek and the natural portion of the creek. In cooperation with the T.R.W.C.D., M.H.H.C. contributed funds to purchase the land, ensuring protection of downstream fish habitat.

Northwest Region

Enhancement Projects

73. **Saskeram Forage Project**
Funding: $798
One year
Complete

Fifty-six acres of grass/legume mixture were established in the Saskeram Wildlife Management Area to provide nesting cover for waterfowl and a high quality forage for white-tailed deer.

74. **GHA 8 Burn (The Pas)**
Funding: $10,000
Two years
Ongoing

Fireguards were established around a 1000 acre parcel of land containing old decadent stands of aspen and willow in preparation for a prescribed burn in 1987.

Head Office — Winnipeg

Public Information
Funding: $2,600
Ongoing

A priority of this program is the involvement of the public in habitat protection projects. A program logo, brochures, information displays and slide shows were developed explaining the objectives and activities of the M.H.H.C. and encouraging public participation.

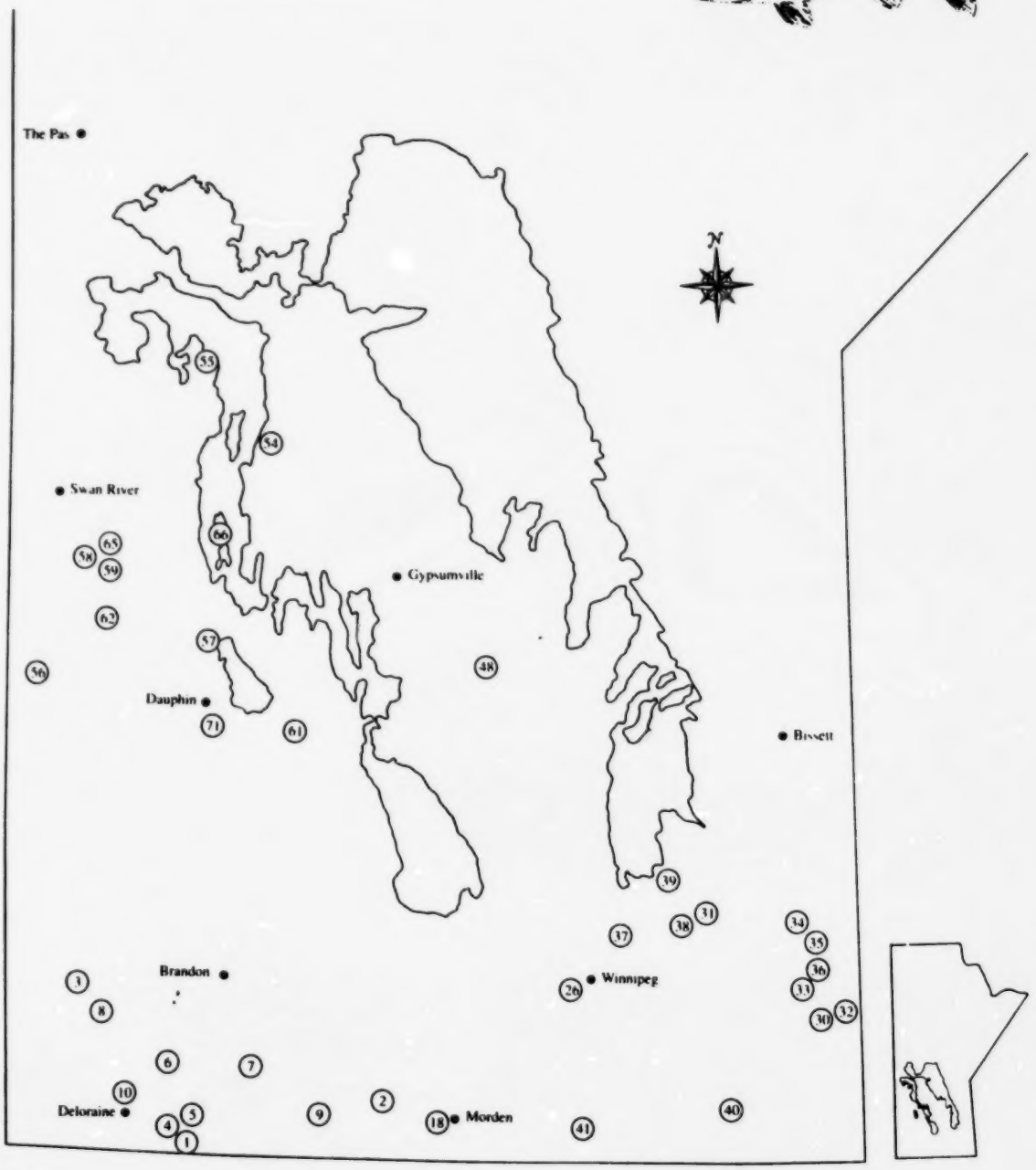
Project Signs
Funding: $6,600
Ongoing

Projects are signed identifying the site as a M.H.H.C. project to increase public awareness of the intentions and methods of habitat conservation and protection.

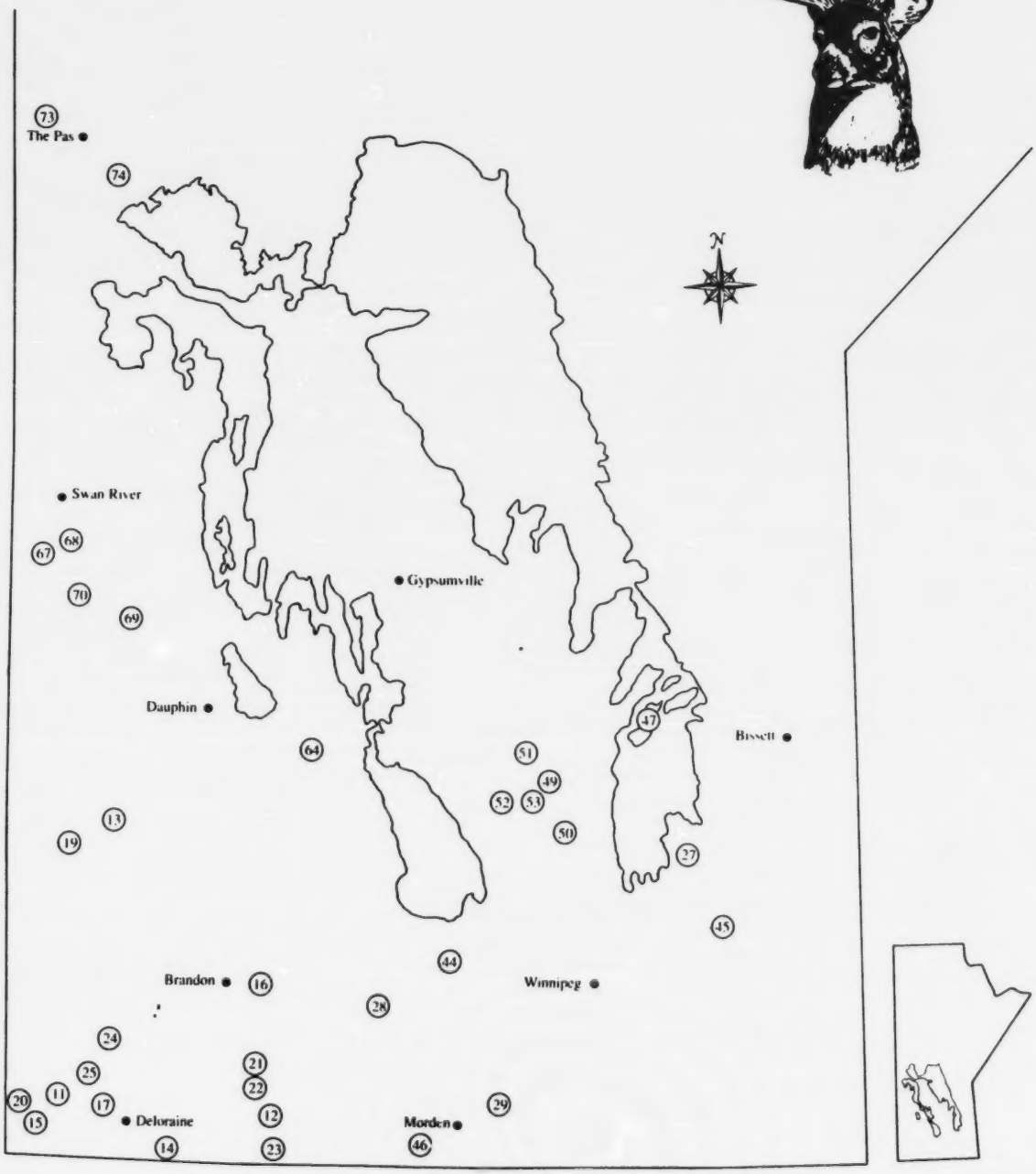
Board Of Directors
Funding: $2,700
Ongoing

Expenses are incurred by the board of Directors in performing their duties involving review of proposals, project site visits and inspections, and policy review.

Fish Habitat Project Locations



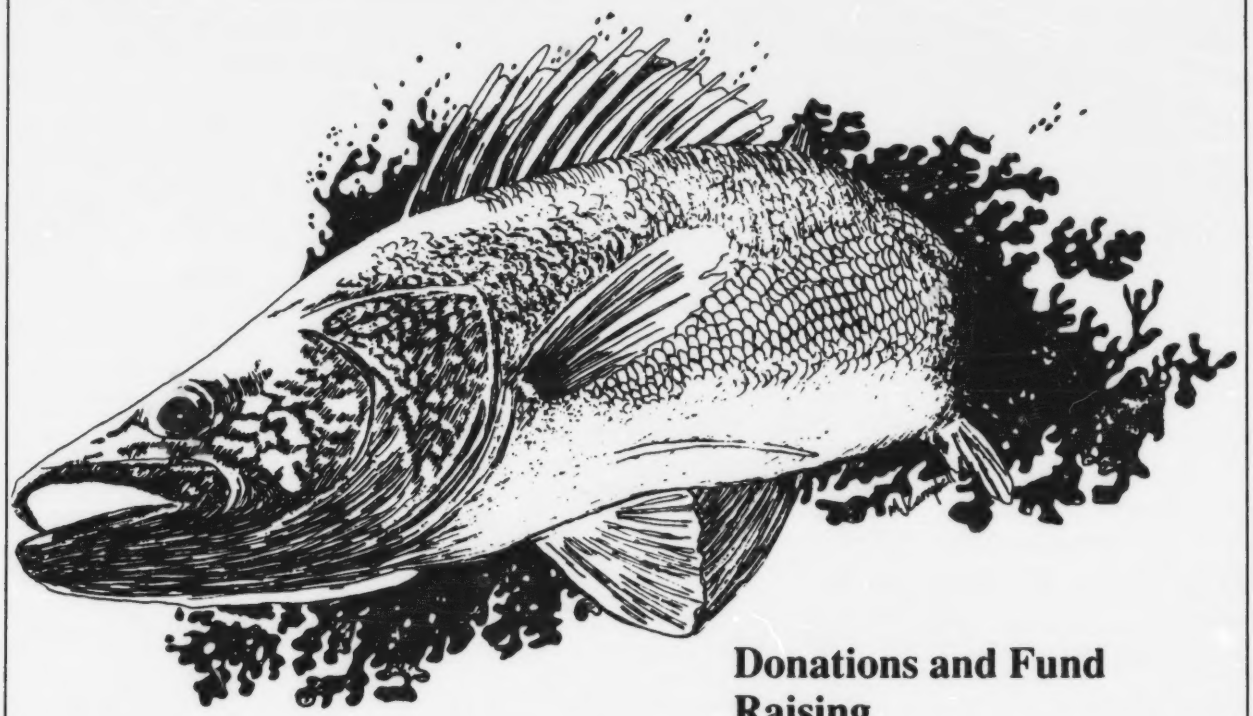
Wildlife Habitat Project Locations



Manitba Habitat Heritage Corporation Financial Summary

Revenue and Expenditures ($000)

	1984	1985	1986
Total Project Allocation	250.0	235.0	250.0
Public information	—	12.95	6.25
Enhancement projects	189.29	162.38	112.26
Easement projects	6.95	4.69	15.19
Acquisition projects	43.63	30.43	67.27



Donations and Fund Raising

The Manitoba Habitat Heritage Corporation is a non-profit entity which is capable of receiving income tax deductible donations and bequests from private organizations or individuals.

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